

# **INCREMENTAL AST MAINTENANCE USING WORK AREAS**

## **ABSTRACT**

Disclosed is a method and system for incrementally maintaining algebraic functions in automatic summary tables (ASTs) of at least one relational database. The method associates a work area with each algebraic function in each AST. Each work area is comprised of one or more variables. The method populates the variables within each work area for each algebraic function when each AST is created and when each AST is updated. The method maintains each work area by adding and subtracting to and from its associated variables when the associated data changes in the relational database. The functions that compute the variables of the work areas are distributive and thus incrementally maintainable. The method computes and recomputes the algebraic function within an AST after the updates have changed one or more of the variables of its workarea.